

II. REMARKS

1. Claims 1-23 remain in the application.

2. Claims 1-5, 8, 11-13, and 16-19 are not anticipated by Mills, Jr. (US 6,665,529, "Mills").

2.1 Mills fails to disclose or suggest storing data on an IC card for connecting at least one access point to a functional connection with the fixed network part, coupling the IC card into a functional connection with the access point in response to a need to connect the access point to the fixed network part, and connecting necessary resources of the fixed network part to a functional connection with the access point on the basis of said stored data, as recited by claim 1.

The Examiner equates the data on an IC card of the present claims with the subscriber identity (IMSI) on the SIM card of Mills, and the access point of the present claims with the base station 12 of Mills. The Examiner states that in Mills when the mobile phone wants to make a call, the base station reads the IMSI to identify the phone to the base station and connects to the rest of the network to transmit the IMSI. The Examiner states that this is the same as coupling the IC card into a functional connection with the access point in response to a need to connect the access point to the fixed network part.

Applicants respectfully disagree. Mills states that the mobile station (MS 20) registers with the MSC/VLR 26 using a temporary identity or an IMSI (col. 6, lines 23-25). This does not mean coupling the IC card into a connection with an access point. It simply means that the IMSI is conveyed to the MSC/VLR. There is

nothing in Mills that discloses or suggests coupling the IC card to an access point.

2.2 Mills also fails to disclose or suggest that an access point is arranged to use an IC card, onto which is stored data for connecting at least one access point to a functional connection with the fixed network part, and the access point and the fixed network part are arranged to connect necessary resources of the fixed network part to a functional connection with the access point on the basis of said stored data, as recited by claim 11.

Using the same rationale stated above, the Examiner finds that data stored on the SIM card ultimately causes the base station to connect with the rest of the fixed network. Applicants disagree. Mills states that the mobile station (MS 20) registers with the MSC/VLR 26 using a temporary identity or an IMSI (col. 6, lines 23-25). In contrast, Applicants' claim describes the IC card as "onto which is stored data for connecting at least one access point to a functional connection with the fixed network part." There is nothing in Mills related to using data on the IC card for connecting an access point to a fixed network. In fact, Mills appears to suggest that the base station and MSC/VLR have a pre-existing connection because there is no disclosure related to the base station at all when the mobile station registers with the MSC/VLR.

2.3 Mills further fails to disclose or suggest an access point that comprises card means for coupling an IC card to the access point and for reading data on the IC card, and that the access point comprises control means and transceiver means for setting up a functional connection to required resources of a fixed

network part on the basis of the data stored on the IC card, as recited by claim 16.

In the discussion of this claim the Examiner equates the same elements of Mills and the present invention as before and states that: when the mobile phone initiates a call the mobile phone will be coupled into a functional connection with the base station; since the mobile station comprises the SIM card, the SIM card is also functionally coupled with the base station; and that the base station will read the IMSI stored on the SIM card to identify the mobile phone.

Applicants fail to find any disclosure in Mills on how initiating a call leads to a functional connection between an IC card and a base station. The cited portions of Mills simply state that the mobile station registers using the mobile subscriber identity. Mills clearly does not state or suggest that base station will read the IMSI stored on the SIM card, only that the mobile station registers using the IMSI.

3. Further arguments supporting the present claims will now be presented in greater detail.

The present invention is related to connecting access points to other network elements in wireless telecommunications systems (paragraph [0001] of the present application). The access point can be any network element participating in offering a wireless connection to a terminal. For example, the access point can be a base station (BS), a radio network controller (RNC) controlling one or several BSs, or an entity including a BS and an RNC [0003].

Before the present invention, connecting access points to other network elements in a telecommunications network caused

problems. An operator managing the other network elements, such as the core network, had no efficient way to control the connection of access points to the other network elements [0003]. In the present application the use of integrated circuit cards (ICC) for connecting access points has been invented. Data for functionally connecting an access point to a fixed network part is stored on an IC card. The fixed network part may comprise one or several substantially fixed network elements that offer network services. When an access point is to be connected to a fixed network part, the IC card is functionally coupled to the access point. Necessary resources of the fixed network part are connected in a functional connection with the access point on the basis of said stored data.

The invention is advantageous in that new access points such as base stations, radio network controllers or entities comprising the base station and a radio network controller, can be more easily connected to other network elements, since the necessary data is already stored on the IC card. Having the IC card at the access point offers an operator a chance to assign the management of the access points to a selected party or to purchase the services offered by the access points. This significantly decreases the maintenance work required and allows operators to concentrate more on services offered by the core network. For instance, mobile base stations may be easily used and connected to the core network.

The cited reference Mills describes how an authentication procedure can be carried out in a public land mobile network (PLMN) such as a GSM network. According to Mills, the system includes at least a switching centre (MSC/VLR) communicating

with at least one equipment registry (EIR) and at least two subscriber registries (HLR), wherein, for each system subscriber, data associated with that subscriber is stored at a unique address in one of the subscriber registries.

Mills' invention includes the steps of: receiving an equipment identity number at the switching centre (MSC/VLR), the equipment identity number (IMEI) being unique to a particular mobile communications device used by the subscriber, transmitting the equipment identity number to the equipment registry (EIR), checking operability status of particular mobile communications device, transmitting, from the equipment registry to the switching centre, the device operability status together with the unique address of data associated with the subscriber authorised to use the particular mobile communications device, retrieving data from the unique address, and authenticating the subscriber based upon the retrieved data (column 2, lines 10-37).

The object of the Mills' invention is to minimize signaling costs and eliminate problems in delay, backlog, and system shutdown due to conventional Signal Transferring Point (STP) nodes (column 3, lines 37-54). As is also known from conventional GSM systems, a subscriber identify module (SIM) stored in an IC card is used for user authentication. This IC card is used in a terminal device, i.e. the GSM mobile station (see e.g. column 4, 1. 61-67). The IC card according to Mills is used in an ordinary way for providing the SIM for authenticating the mobile station in the GSM core network. The authentication is done by the mobile switching centre (MSC) on the basis of a comparison of the signed response (SRES) from the SIM to the SRES from the authentication centre (see column 6,

lines 55-64. If the mobile station is authenticated, calls can be originated and received by the mobile station via the GSM network.

However, for the reasons stated herein, Mills does not disclose any specific method or means for connecting an access point to other network elements in a wireless telecommunication system but is instead describes a method of connecting a terminal device, the GSM mobile station, to a mobile network. There is no indication of applying an IC card for or in access points, or more specifically of connecting an access point to a fixed network part by utilizing an IC card or data stored in an IC card.

Mills does not disclose the storage of any kind of information *for connecting at least one access point to a functional connection with a fixed network part* in an IC card. Instead, Mills teaches storing the SIM in the IC card, whereby the SIM merely contains information (such as the IMSI which can be retrieved from the SIM) for authenticating the mobile station in the network, i.e. facilitating the call set up for the mobile station.

Further, Mills does not even hint towards coupling an IC card into a functional connection with an access point. Instead, Mills only teaches to couple the IC card to the mobile station. Based on Mills, the SIM card does not have a functional connection with a base station, the base station merely provides a wireless connection for the mobile station and forwards information between the mobile station and the base station controller (BSC). Information is submitted to the IC card and retrieved from the IC card only by the mobile terminal. GSM specifications specify the interface between the mobile terminal

and the SIM in the IC card (the SIM-ME interface) for this purpose. No interface between GSM base stations (BTS) and the SIM in the IC card is described in Mills. Therefore, the IC card does not maintain any connection (via the mobile station) to any network element but is only limited to communicating with the mobile station. The base station of Mills has no means for reading anything from an IC card residing in the mobile station. According to the teaching of Mills, the mobile station is the only entity capable of reading data from the IC card. This can be done by using electric contacts connected to electronic contacts of the IC card inserted in the mobile station. According to Mills, after being read, the information from the IC card (IMSI) is transferred from the mobile station without any intervention to the core network, i.e. to the MSC/VLR (see Figures 5a and 5c). Therefore, the base station (BTS) cannot have any direct or indirect access to the information in the IC card and does not read the IMSI in the IC card.

Thus, the Examiner's views on page 2 of the present Office Action relating to communication between the base station and the IC card in the mobile phone are traversed. More specifically, a connection between a mobile station and a base station does not mean that a connection would be established also between the base station and an IC card in the mobile station.

Mills does not give any indication of applying an IC card and information therein for connecting an access point to other network elements (for instance to a mobile switching centre of a GSM network). It is to be noted that, in accordance with Mills, the base station needs to be connected to the fixed network before the mobile station can be authenticated, in order to be

able to transmit in step 46 of Fig 5a the IMSI from the mobile station to the core network (in order to arrange authentication and ultimately the connection for the mobile station). Thus, Mills does not provide any solution to the present problem relating to connecting an access point to a fixed network part. Mills does not even hint towards any functions performed in response to a need to connect the access point to the fixed network part.

In fact, Mills does not provide any details on how an access point (e.g. a mobile base station) could be connected to a fixed network part. Mills merely describes that data may be delivered via the base station (BTS) from a mobile station to a base station controller (BSC; which further delivers data to the core network) and vice versa. Further, there is no indication in Mills of connecting resources of the fixed network part to a functional connection with the access point on the basis of data stored in an IC card functionally coupled to the access point, since the IMSI from the IC card is certainly not used for this purpose according to Mills.

On the basis of the above arguments, the present method for connecting an access point is novel and involves an inventive step over Mills. At least for these reasons, Applicants respectfully submit that independent claims 1, 11, and 16, and dependent claims 2-5, 8, 12, 13, and 17-19 are not anticipated by Mills.

4. Applicants respectfully submit that claims 6, 7, 9, 10, 14, 15, and 20-23 are patentable over the combination of Mills in view of Widegren et al. (US 6,374,112, "Widegren").

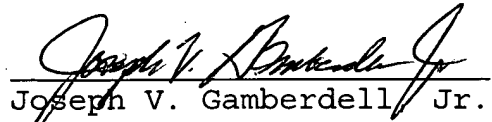
Widegren fails to disclose or suggest the features of claims 1, 11, and 16 missing from Mills as argued above. Thus, the combination of Mills and Widegren does not disclose or suggest all the features of the independent claims.

Widegren describes a method of providing flexible radio access and resource allocation in a Universal Mobile Telecommunication System (UMTS). Widegren merely describes that base stations and radio network controllers provide a UMTS system but has no indication of applying IC cards to such an application. Therefore, the combination of Mills and Widegren does not render claims 6, 7, 9, 10, 14, 15, and 20-23 unpatentable.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,


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28 January 2005
Date

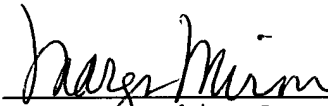
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